

Chris Matera P.E.
71 Washington Ave
Northampton, MA 01060
February 6, 2009

Courtney Feeley Karp
Massachusetts Department of Energy Resources
100 Cambridge St.
Suite 1020
Boston, MA 02114

Re: 225 CMR 14.00 – *Renewable Energy Portfolio Standard – RPS I*
225 CMR 15.00 – *Renewable Energy Portfolio Standard – RPS II*
225 CMR 16.00 – *Alternative Energy Portfolio Standard – APS*

Dear Ms. Karp and the Massachusetts Department of Energy Resources,

Please imagine the folly of using a washroom electric hand dryer to save trees knowing that trees are being burnt to power the dryer.

Please imagine the absurdity of going through the effort to recycle a few ounces of paper products to save trees knowing that 2 million tons of trees are being burnt each year in polluting, CO2 emitting biomass power plants.

Please recall the public hearing on Thursday Feb 5th, where comments were made regarding efforts to minimize the number proposed regulation printouts, regulations which would open the door to burning 2 million tons of trees each year, to save trees.

Biomass energy projects using whole tree wood chips or chemically contaminated construction and demolition waste, municipal solid waste, and waste pallets need to be removed from eligibility to receive subsidies or advancement from taxpayers, electricity rate-payers, or any agents of the Commonwealth through any of the three above mentioned Renewable Portfolio Standard statutes.

At this time of ecological and economic crisis, there is no reasonable argument for forcing taxpayers to subsidize new polluting, CO2 emitting, forest devastating carbon based fuels for minimal amounts of cheap power. These policies will worsen air pollution, increase greenhouse gas emissions, deplete forests and drain our public coffers, the exact opposite of what we need to be doing right now. These tax-payer subsidies and other incentives should be redirected toward truly green technologies to produce clean, non-carbon emitting energy, and local jobs.

Biomass power plants burning the above mentioned materials are not clean, not green, and need to be eliminated from the RPS standards to avoid expected and valid claims of greenwashing. Cutting down forests or burning contaminated waste and calling it “Renewable”, thus with the implication that it is “green” and “clean” energy will add to public cynicism and threaten the good idea of government helping along environmentally friendly technologies.

Additionally, Massachusetts has committed to reducing global warming emissions and burning millions of tons of forest will cause a double whammy of releasing currently locked up carbon as well as degrading the forests ability to absorb CO2 flying in the face of this landmark legislation. **Despite claims by the timber industry, logging the forest, even with selective logging adds carbon to the atmosphere.**

<http://www.americanscientist.org/issues/pub/cant-log-the-forest-for-the-trees>

Please see attachment with details on this issue and others documenting with text and photos that including the above mentioned fuels in the RPS mix will cause irreparable harm to the Massachusetts environment in terms of forest destruction, increased air pollution and increased CO2 emissions. All of the photos are taken on our public lands in the last 2 years, and are a preview of what will spread across the Massachusetts landscape if these large biomass plants are built.

Including whole trees and contaminated waste materials in the RPS standard is the absolute last thing we need to be doing now, especially under the guise of green energy. The proposals to use these fuels will just add to our problems, not help them, so please, slow down, take a breath, and think about this carefully.

Sincerely,

Chris Matera, P.E.

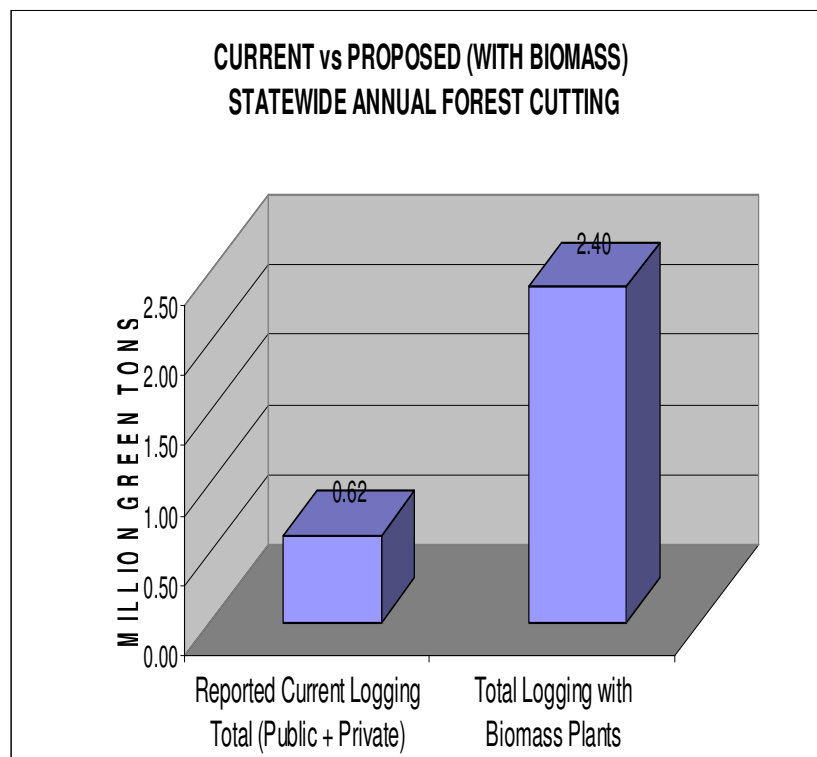
Enclosure: 13 additional pages of report and photos, see below

Via e-mail: christoforest@yahoo.com

MASSACHUSETTS FORESTS THREATENED BY BIOMASS POWER

Currently there are plans to build at least five, large-scale taxpayer subsidized, wood-fired biomass power plants in the western Massachusetts. (Greenfield, Russell, Springfield, Pittsfield and Fitchburg)¹ These proposals would require burning massive quantities of wood to provide miniscule amounts of power and would worsen air and water pollution, add 3 million tons of carbon dioxide to the atmosphere annually,² divide communities, squander taxpayer dollars and heavily cut our important forests. A recent study³ by Stanford University has identified cellulosic ethanol (i.e. biofuel from wood) as the **worst** of the renewable energy options, **even worse than fossil fuels**. Indeed, according to the report, *"Ethanol-based biofuels will actually cause more harm to human health, wildlife, water supply and land use than current fossil fuels."*

At least 2.4 million tons of wood, including about 1.8 million tons of whole trees, would be burned annually to fuel these large power plants.⁴ For perspective, DCR records indicate current annual State forest land logging of 0.05 million tons of wood, and annual private land logging of 0.57 million tons.⁴ Even when accounting for purported quantities of available waste wood and ignoring other biomass projects and serious proposals to cut trees for ethanol, **logging rates would need to triple** on all Massachusetts forests, public and private, in order to provide a continuous supply of wood for these plants to burn.⁴



Claims that these plants will not use live trees and only burn clean waste wood is an already “exploded myth”⁵ which doesn’t add up and is clearly false as demonstrated by the following facts.

The DCR maintains a “Marketing and Utilization” website promoting biomass power as having “*tremendous potential in Massachusetts due to the State’s 3 million acres of “underutilized” forestland*” and has commissioned reports entitled “Forest Harvesting Systems for Biomass Production” and “Forest Biomass Harvesting-Silviculture and Ecological Considerations” which target public forests to provide biomass fuel.⁶

This second report states “*the public forest land base for harvesting is 460,000 acres*” and “*the planned increase of biomass harvesting will be occurring in a region where forests are owned and managed largely*

for the ecosystem services they provide, such as habitat conservation, clean air and water, and recreation” and warns that “public support could quickly wane if the program appears to focus too closely on industrial-scale harvesting.”⁷

Mass Audubon has warned the State that, “the proposed Biomass Initiative targets raise concerns regarding potential effects on management not only of private lands but also for the commonwealth’s publicly protected conservation lands, particularly the Department of Conservation and Recreation’s state forests and parks.”⁸

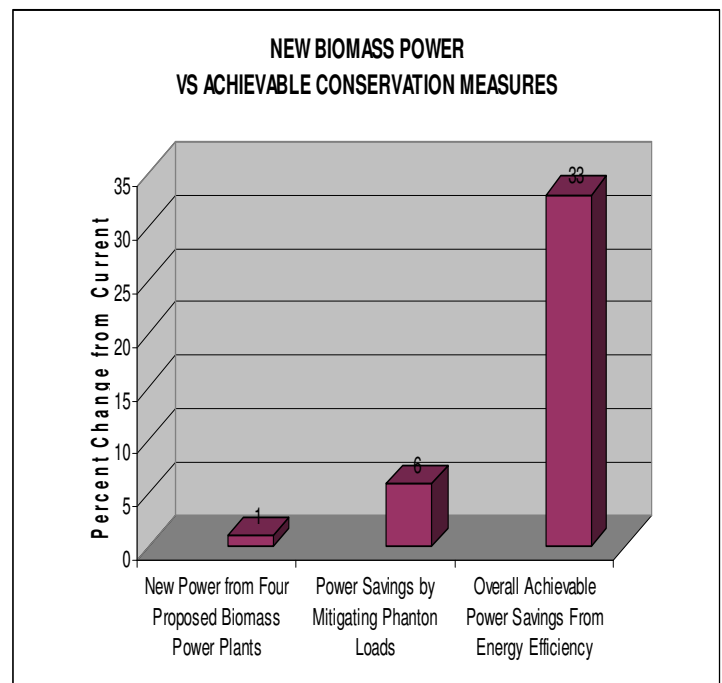
Burning forests for power is a step backwards and would worsen our energy and environmental problems, not help solve them, particularly in light of increasing wood demands for heat and now serious proposals to turn huge quantities of Massachusetts trees into gasoline.⁹

With already polluted skies and carbon dioxide levels dangerously increasing, it is irrational and reckless to chop down forests and burn them for minimal amounts of cheap power. To add insult to injury, public funds are being diverted from truly clean and green technologies to subsidize cutting and burning of trees, which will likely help foster a cynicism of “clean” and “green” in conscientious citizens growing increasingly wary of “greenwashing” by government and industry.

Building these plants would come with the many costs and consequences mentioned above yet would only provide 185 MW of power, a just over 1% increase on the current 13,932 MW generating capacity in Massachusetts.¹⁰ Phantom loads, the loads drawn when electrical equipment is not even on, account for 6% of total electrical use and can easily be mitigated¹¹. Overall, easily achievable conservation measures could provide a 33% reduction in electricity use.¹²



40 MW Biomass Plant, Livermore Falls, ME



During this era of polluted skies, global warming, asthmatic children and government deficits, the last thing we need to do is build taxpayer subsidized biomass power plants that will lead to aggressive cutting, burning and inhaling of forests. We need to keep forests alive, growing and cleaning the air and water. A school child understands this concept, when will Governor Patrick’s office of Energy and Environmental Affairs figure it out?



Douglas S.F. Biomass Sale Locus Map

US State Plane 1983
Massachusetts Mainland 2001
NAD 1983 (Conus)



Scale 1:25,000
0 3,000
Feet

 A graphic scale bar with alternating black and white segments, representing a distance of 3,000 feet.

Rt-16.ssf
6/9/2008
GPS Pathfinder® Office
Trimble

2008 BIOMASS TIMBER SALE DOUGLAS STATE FOREST

This is not “green” energy



Windsor Jambs State Park, 2008



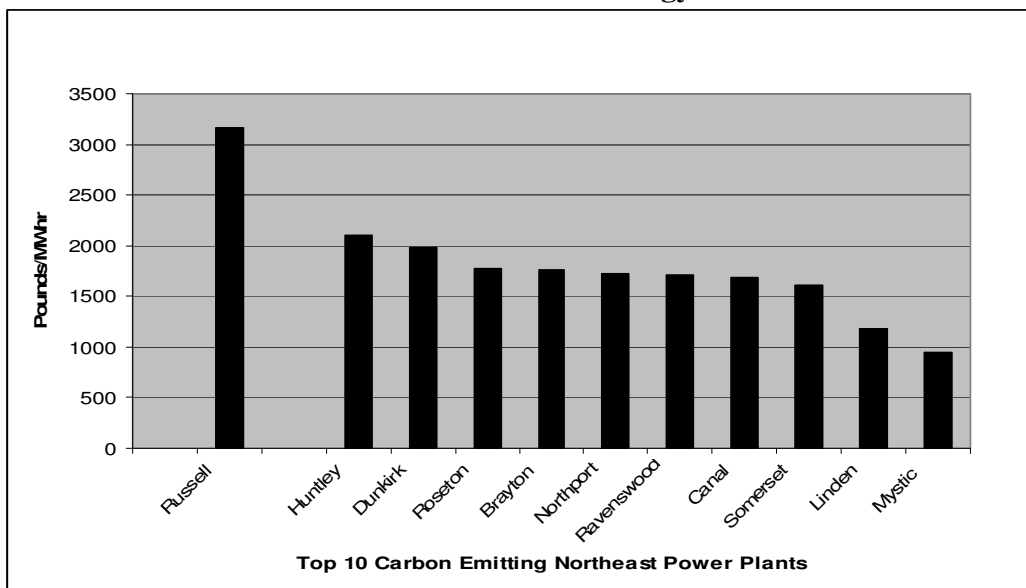
Savoy State Forest, 2008

GLOBAL WARMING – LOGGING AND BURNING FORESTS AND CO2

Biomass is typically touted as a carbon neutral fuel and burning biomass is sold as “green” energy. This key assumption about carbon neutrality is unsubstantiated and impossible, yet is slavishly repeated by biomass proponents, the press and others. However, an awakening from this irrational wishful thinking is starting to occur. For example, the Massachusetts Department of Public Utilities (DPU) in their recent partial rejection of Russell Biomass’ request to overturn Russell’s zoning bylaws, wrote that uncertainties about sustainability “prevent the Department from reaching a conclusion on the likely carbon impact of this facility.”

As mentioned earlier, five large-scale biomass plants are proposed for Massachusetts which would **release 3 million tons of carbon dioxide annually** into the atmosphere. Russell Biomass is one such facility proposed to be constructed in the small town of Russell. The project proponents estimate in their Expanded Environmental Notification Form (EENF) that the plant will emit **1,732 tons per day** of carbon dioxide, or 3158 lbs/MWhr.¹³ **This means the Russell plant would release 50% more carbon dioxide per unit energy produced than any of the ten worst carbon dioxide emitting power plants in the Northeast.**¹⁴

**RUSSELL BIOMASS
vs
WORST NORTHEASTERN POWER PLANTS
CO2 Emissions Per Unit of Energy Produced**



Source:
MassPIRG
“More Heat
than Light”

In addition to these emissions, petroleum will be used -- and carbon dioxide emitted -- to cut the wood, chip it into tiny pieces, and haul it up to 100 miles (per EENF) in trucks that get less than 10 miles to the gallon, to a \$150 million (per EENF) facility that would take significant energy to build, where it will then be burned with less than 25% efficiency (per EENF). The only way this could be carbon neutral is if vegetation instantaneously grew back faster than it was burned at the facility. Actually, to be truly carbon neutral, it would have to grow back before the facility started up to compensate for the carbon that would be emitted in building the huge facility and obtaining the wood. When all the requirements for this operation are factored in, it is evident that the Russell biomass power plant and others like it would not be carbon neutral.

Russell biomass and similar large biomass projects are a lose-lose-lose proposition that would be heavily petroleum dependent to obtain the wood fuel, would release excessive carbon dioxide to the atmosphere, and would put harmful logging pressures on our carbon dioxide-sequestering forests. The Russell plant alone would burn 500,000 tons of wood annually, that’s one ton every minute. As mentioned earlier, greatly increased logging rates would be required to satisfy the increased demand for wood, increasing carbon dioxide emissions in the process.

Deforestation is a major contributor to greenhouse gas emissions. In fact, the United Nations Food and Agriculture Organization reported in October 2006 that deforestation accounts for 25 to 30 percent of the release of greenhouse gases. The report states: “Most people assume that global warming is caused by burning oil and gas, but in fact between 25 and 30 percent of the greenhouse gases released into the atmosphere each year – 1.6 billion tons – is caused by deforestation.”¹⁵

According to a study by a Deutsche Bank economist that was commissioned by the European Union, “the global economy is losing more money from the disappearance of forests than through the current banking crisis” and that the “losses are great, and continuous.”¹⁶ The report estimates that the annual cost of forest loss at between \$2 trillion and \$5 trillion from quantifying the value of the various services that forests perform, such as providing clean water and absorbing carbon dioxide. It projects that forest decline could be costing about 7 percent of global Gross Domestic Product and that the greatest cost to western nations would initially come through losing a natural absorber of the most important greenhouse gas. The report talks about temperate as well as tropical forests.

Recent research shows that forests that have a past history of logging have less ability to sequester carbon dioxide than unlogged forests. Other research shows that biofuels such as ethanol have very negative impacts and consume more energy (in the form of petroleum inputs) than they generate.¹⁷ A similar analysis of biomass is sorely needed before we charge ahead with these facilities that drive heavy logging that could take decades to recover from. It may turn out that our best alternative is to leave some forests alone. If they have been destroyed before we do an analysis, we may have lost our best option through carelessness and haste. In order to put some brakes on this runaway train, a moratorium on commercial logging of State forests should immediately be implemented and permits and taxpayer subsidies for large biomass plants should be halted until adequate study has been completed and appropriate safeguards are in place.

Massachusetts purports to be progressive in the arena of alternative energy, and has passed a global warming bill committing to reducing carbon dioxide emissions. These efforts stand in stark contrast to the promotion of biomass technology that is based on combustion and emitting carbon which also damages carbon sequestration potential by cutting down trees. Massachusetts should be focusing efforts on low-carbon release technologies and energy conservation rather than subsidizing biomass projects with scarce taxpayer funds.



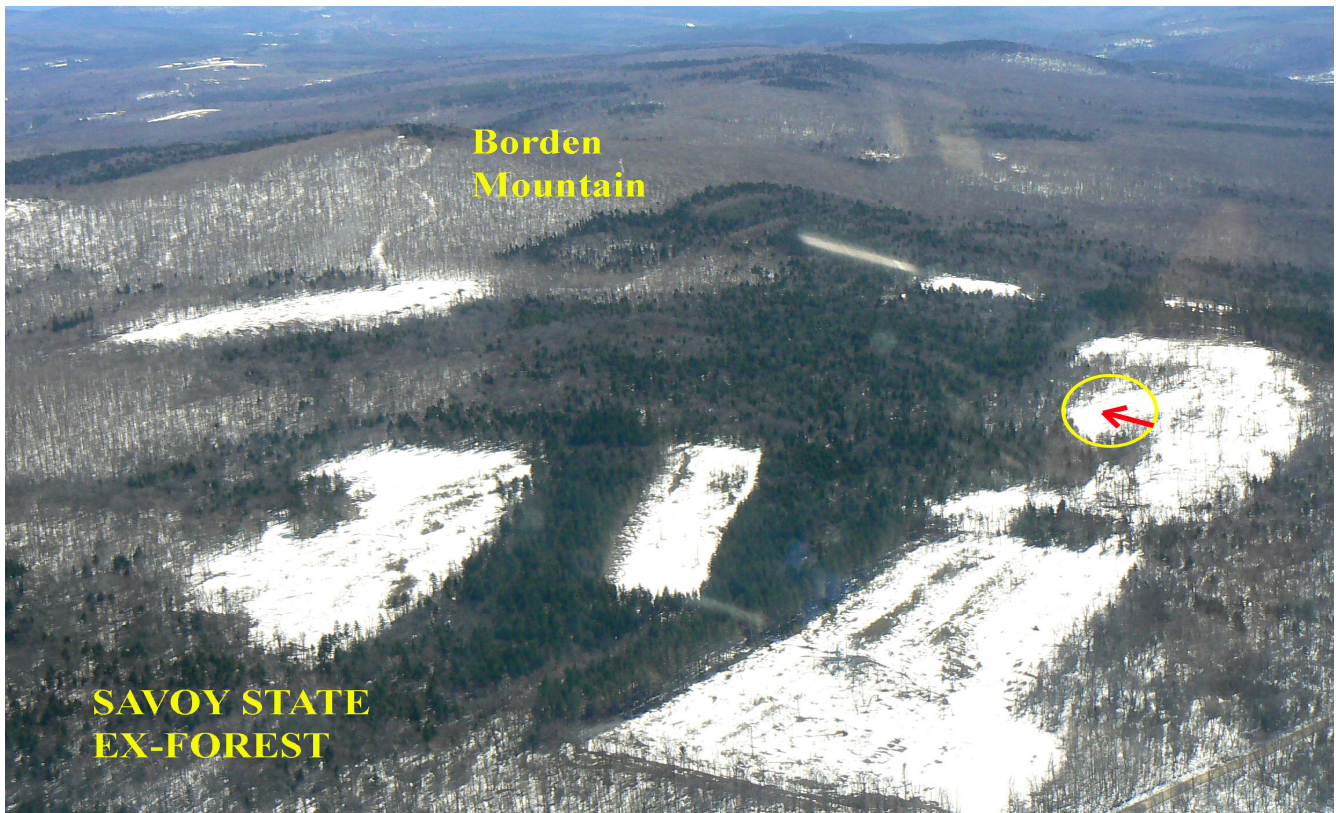
Carbon Neutral? Peru Wildlife Management Area, 2008

According to a 2007 Massachusetts Department of Energy Resources document, conservation is the cheapest form of energy, costing only 3.5 cents per kilowatt-hour, and furthermore, opportunities for conservation are substantial.¹⁸ Solar, geothermal, and wind energy are not based on combustion with its inevitable carbon dioxide emissions. We need to pursue more advanced energy strategies and think bigger than heretofore. More significant change is needed than just a switch from one dirty combustible fuel to another, especially if we intend to leave a habitable planet for our children.

In light of these facts, it would be a huge mistake, crazy even, to cut down our trees and burn them in biomass plants. Many of the consequences of these irrational ideas would be difficult, expensive, and time-consuming to reverse. A course correction is urgently needed before too much damage is done.

“Savoy State Forest....over 50 miles of wooded trails invite year-round recreational access to spectacular natural features. Or climb up Spruce Hill on the Busby Trail for breathtaking views, especially during fall foliage and hawk migration.”

DCR Website



AERIAL VIEW, SAVOY STATE FOREST, NEW STATE RD, CLEARCUTS, 2008



GROUND VIEW OF LOCATION MARKED IN THE PHOTO ABOVE, 2008

“At 16,500 acres, October Mountain is the largest State forest in Massachusetts. Here visitors can camp, hike and enjoy the outdoors while they visit nearby Tanglewood and other Berkshire Region points of interest.” DCR Website



County Road, October Mountain State Forest, Four Corner Area, 2008



“Our State parks are a vital treasure for the Commonwealth. By the end of my administration, I hope each and every park is something that we can all be proud of”
Governor Patrick ¹¹



WINDSOR JAMBS STATE PARK – NEAR SCHOOLHOUSE ROAD, 2008



QUABBIN STATE PARK – NEAR VISITORS CENTER, 2008

“Savoy Mountain State Forest makes it easy to leave the everyday world behind. Scenic North and South Ponds, with wooded edges and hills rising in the distance, offer tranquil places to fish, picnic and swim” DCR Website

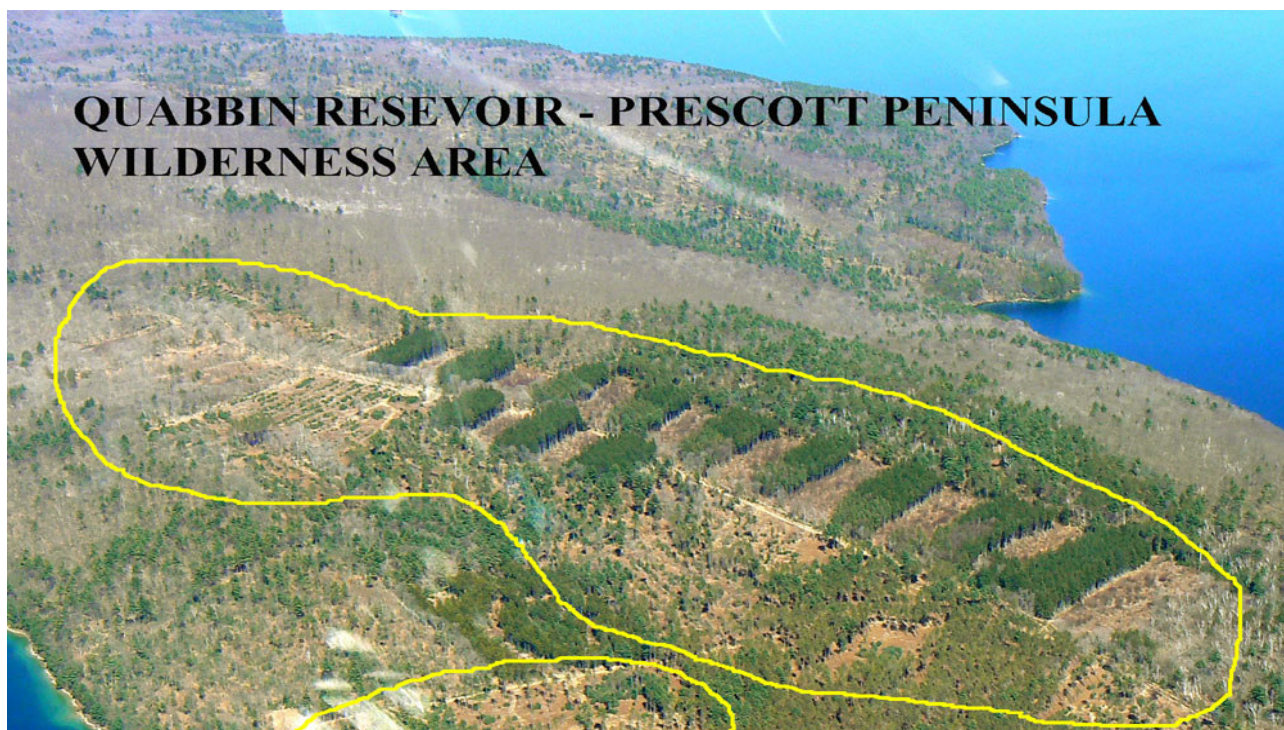


New State Road, Savoy State Forest, 2008



Aerial View of large 44 Acre Cut, Bannis Road, Savoy State Forest, 2008

The Quabbin Reservoir



Clearcutting the Prescott Peninsula Wilderness Area, 2008
Hiking is Illegal to Protect the Watershed



SR202 - 2007



Gate 31 - 2007

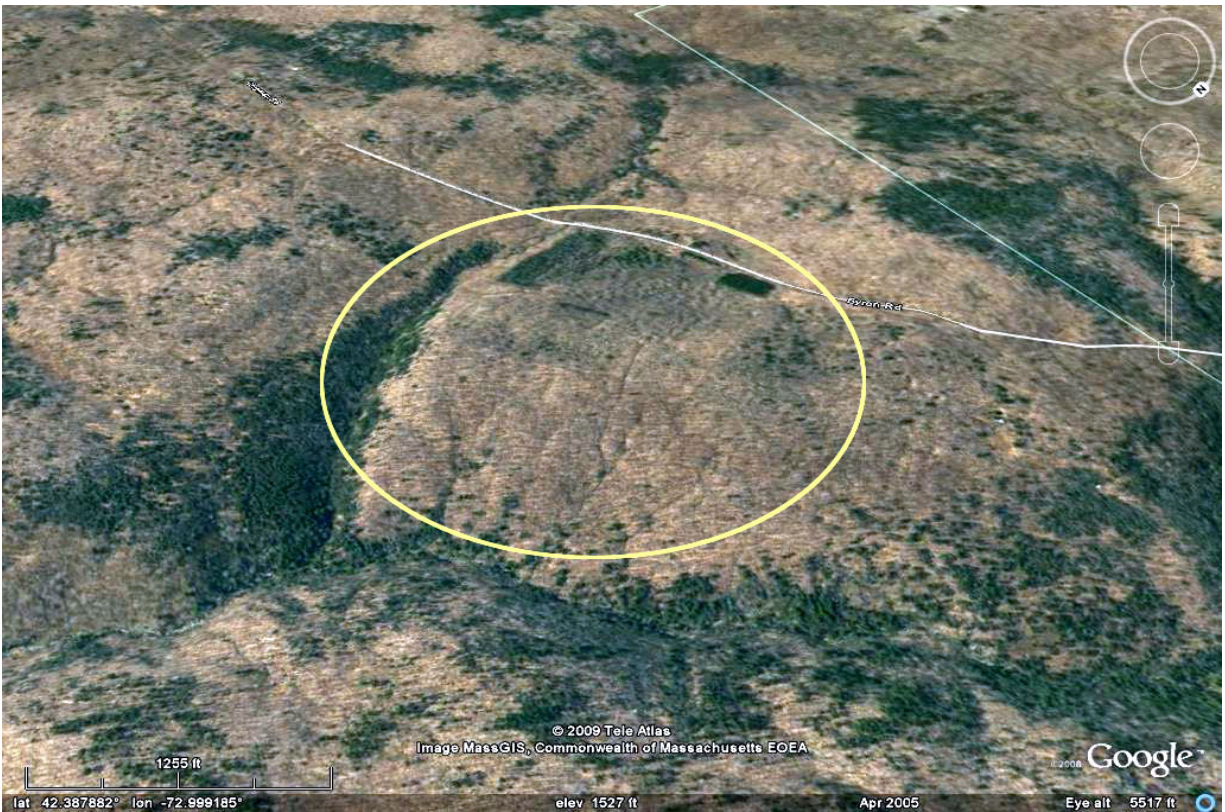


Gate 35 - 2007



SR202 - 2007

“The Massachusetts Division of Fisheries and Wildlife is responsible for the conservation - including restoration, protection and management – of fish and wildlife resources for the benefit and enjoyment of the public. ~DFW Website



Google Earth “Before” photo of large, un-fragmented, interior, hardwood forest



Aerial View “After” photo of now fragmented, clear-cut forest, same location
Fox Den Wildlife Mgmt Area, Chipman Rd, March, 2008

Footnotes

- 1 www.masstech.org/project_list.cfm?init=40, www.recorder.com/story.cfm?id_no=5676106,
www.wbjournal.com/news41145.html
Greenfield (50 MW), Russell (50 MW), Springfield (30 MW), Pittsfield (30-50 MW), Fitchburg (15 MW) = 185 MW
- 2 Biomass Data (www.mass.gov/Eoeea/docs/doer/renewables/biomass/bio-08-02-28-wmass-assess.pdf)
Page 11 - 13,000 green tons per year = 1 MW generating capacity
→ Total Wood required = 185 MW x 13,000 tons = 2.4 million tons
CO₂ produced per ton of wood burned = 1.25 tons/ton Russell ENF page 12
→ Total annual CO₂ = 1.25 tons/ton x 2.41 million tons = 3.0 million tons
- 3 <http://news-service.stanford.edu/news/2009/january7/power-010709.html>
- 4 Biomass Data (www.mass.gov/Eoeea/docs/doer/renewables/biomass/bio-08-02-28-wmass-assess.pdf)
Page 11 - 13,000 green tons per year = 1 MW generating capacity
Page 13 - Branches and tops add 0.29 tons for each ton of merchantable stems
Page 31 - Total Residue Available = 0.63 million green tons all western MA including Worcester County
NOTE: the reality of this number is likely to be significantly smaller as it does not account for reduction due to the housing market correction, reduced timber residues due to the depressed industry conditions, or the removal of toxic C&D waste.
Availability of out of state sources excluded due to their own demands from their own proposed biomass projects.
Existing wood cut on MA forests, 2005 Stakeholder Report (mass.gov/dcr/stewardship/forestry/)
Private Forests 5 year Average Annual Harvest (Page 10), 62,604 mbf, 44,806 Cords, 20,088 tons
Convert to tons, 1 cord = 2.5 green tons chips, 1 mbf = 5.0 tons (1 mbf = 2 cords)
→ 62,604(5.0)+44,806(2.5)+20,088 = 442,883 tons x 1.29 (branches and tops) = 0.57 million tons
Public Forests 2001-2005 Average Annual Harvest (Page 15), 5487 mbf, 3757 Cords, 2425 tons
Convert to tons, 1 cord = 2.5 green tons chips, 1 mbf = 5.0 tons (1 mbf = 2 cords)
→ 5487(5.0)+3757(2.5)+2425 = 39,062 tons x 1.29 (branches and tops) = 0.05 million tons
→ 0.57 million tons private + 0.05 million tons public = 0.62 million tons current total harvest
Note: DCR cutting is reported for logging projects over 25 MBF or 50 cords. Small projects are not reported and are difficult to ascertain quantities, but are estimated significantly less than reported quantities according to industry representatives. Adding 40% to this quantity for small projects = 0.62*1.4 = .87 million tons
Total five plant Biomass Wood required = 185 MW x 13,000 tons = 2.4 million tons
Wood required from forests after subtracting available waste wood =
2.4 million tons – .63 million tons = 1.77 million tons
Total proposed required harvest = (1.77 + 0.87)/0.87 = 3.03 times current rate
- 5 www.timberbuysell.com/Community/DisplayNews.asp?id=3638
- 6 www.mass.gov/dcr/stewardship/forestry/utlmark/index.htm
- 7 www.mass.gov/dcr/stewardship/forestry/utlmark/index.htm
Forest Biomass Harvesting-Silvicultural and Ecological Considerations, Page 4, 5 & 63
- 8 <http://www.mass.gov/Eoeea/docs/doer/gca/class2/massaudubonreplyrps2.pdf> page 3
- 9 Project Number RWT-0621 Sustainable Woody Biomass as a Renewable Energy Source for the Commonwealth of Massachusetts
- 10 Existing capacity = 13,932 MW, (eia.doe.gov/cneaf/electricity/st_profiles/e_profiles_sum.html)
- 11 www.ocf.berkeley.edu/~recycle/ssec/download/Phantom%20Load.pdf
- 12 www.aceee.org/energy/ceemra/eeassess.htm
- 13 Tighe & Bond. 2005. Expanded Environmental Notification Form, Russell Biomass Project, September 2005. Pages 3 and 12,
600,000 tons per year of carbon dioxide for 380,000 megawatt-hours per year net energy production is equal to 3,158 pounds of carbon dioxide per MWH
- 14 Massachusetts Public Interest Research Group. 2005. "More Heat than Light."
- 15 <http://www.fao.org/newsroom/en/news/2006/1000385/index.html>
- 16 BBC News, October 8, 2008, Richard Black, "Nature Loss Dwarfs Bank Crisis"
- 17 Lang, Susan, "Cornell ecologist's study finds that producing ethanol and biodiesel from corn and other crops is not worth the energy."
Cornell News Service, July 5, 2005.
- 18 Massachusetts Saving Electricity: A Summary of the Performance of Electric Efficiency Programs Funded by Ratepayers
Between 2003 and 2005.

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